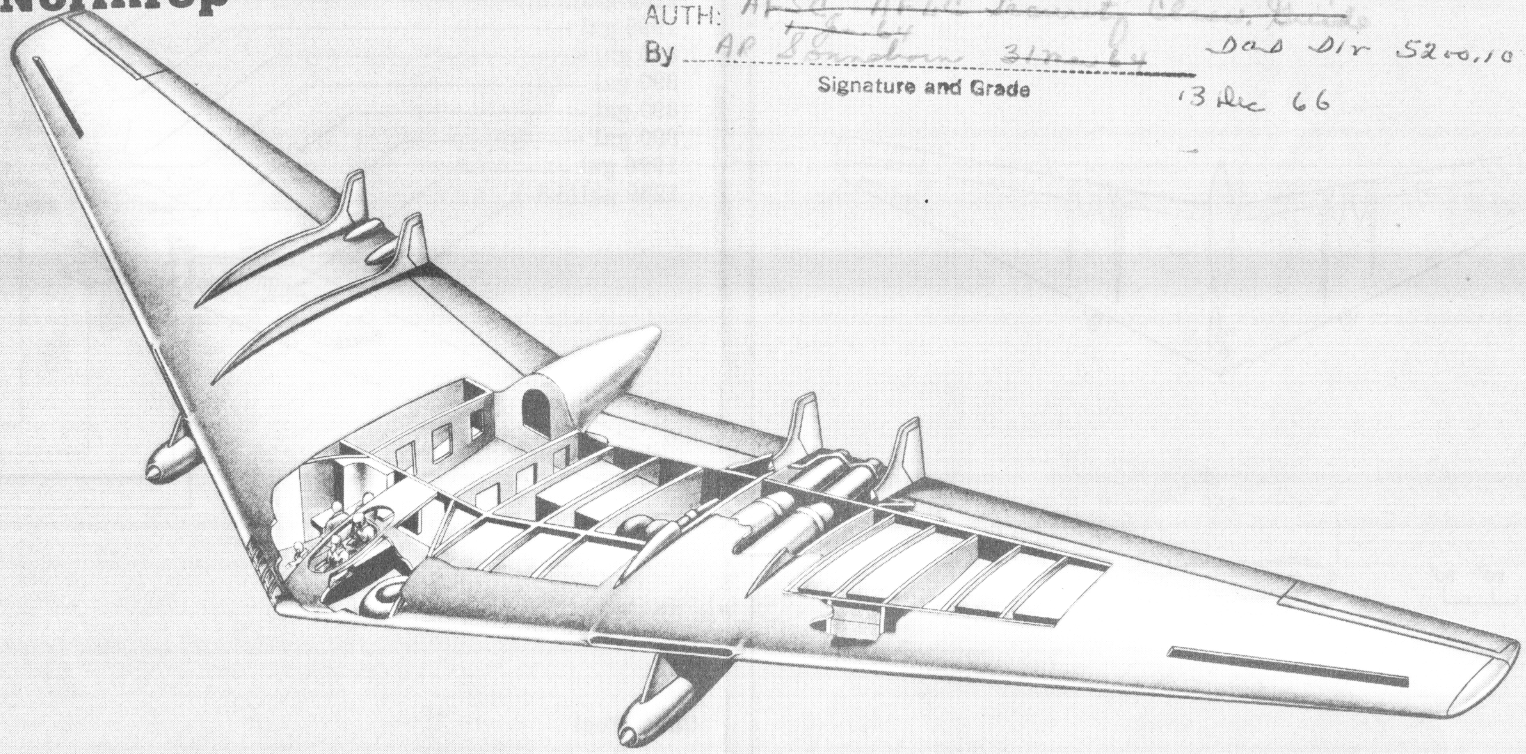
Ohio 45433

YB-35B
FLYING WING
Northrop

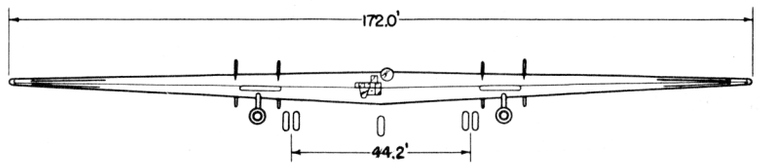
Classification cancelled
or changed to Unclassified
AUTH: AFSC AFLC Security Class. Guide [illegible] DoD Dir 5200.10
By AR [illegible] [illegible]
Signature and Grade
13 Dec 66

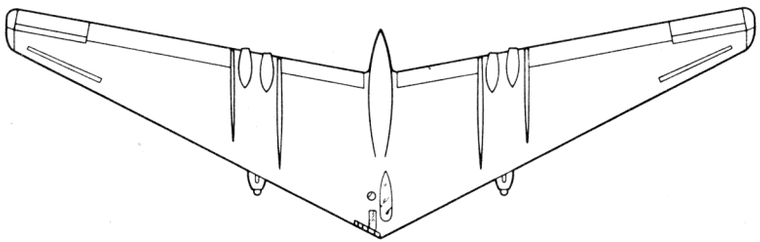


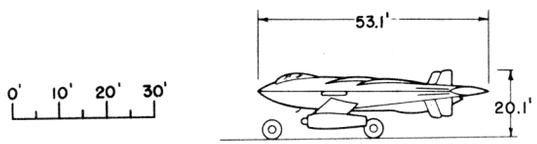
Standard Aircraft Characteristics

BY AUTHORITY OF
COMMANDING GENERAL
AIR MATERIEL COMMAND
U.S. AIR FORCE

SIX J-35-A-19
ALLISON





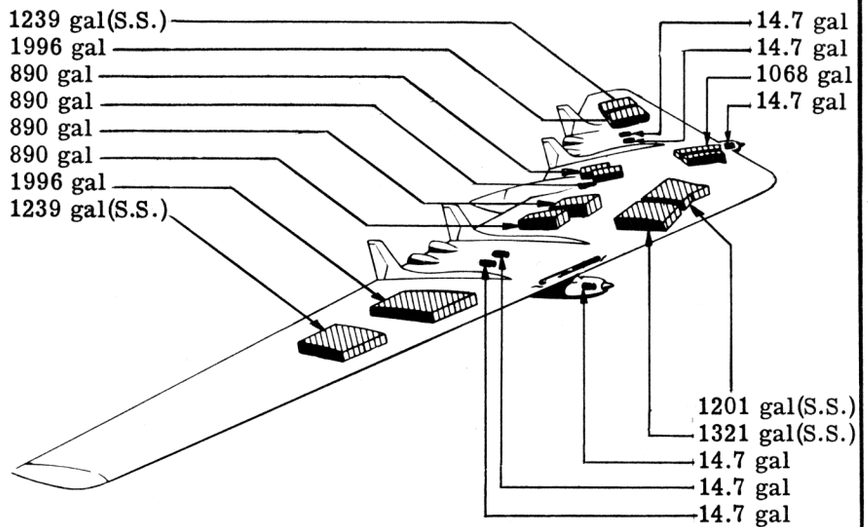


Wing Area ..... 4000 sq ft

Aspect Ratio 7.4

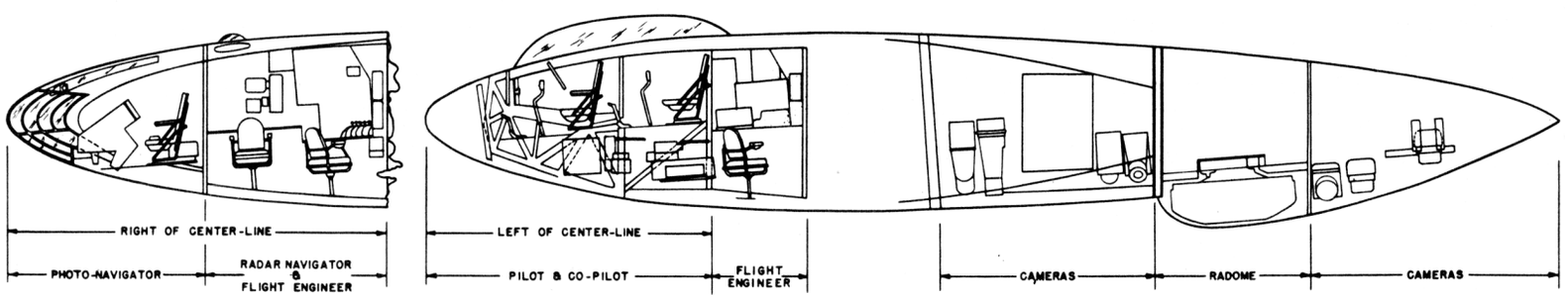
Wing Section ... Root - NACA 65.3-019
Tip - NACA 65.3-018

M.A.C. ..... 315''



Fuel

Oil



POWER PLANT

No. & Model ..... (6) J35-A-19

Mfr. .....Allison

Engine Spec. No. Allison No. 280

Type & Stages ... Axial Flow (11)

Length ..... 138''

Diameter ..... 37''

Weight (dry) ..... 2210 lb

ENGINE RATINGS

S.L. Static	LB - RPM
T.O:	4900 - 7800
Mil:	4900 - 7800
Nor:	4240 - 7400

Mission and Description

The mission of the YB-35B airplane is to further explore and develop the potentialities of flying wing type aircraft.

The crew consists of a pilot, co-pilot, flight engineer and navigator plus provisions for an observer.

The aircraft is a modification of the YB-35 and YB-35A aircraft (reciprocating engines) to accommodate six turbo jet type engines. The aircraft is of "pure" flying wing configuration using elevons-combination elevators and ailerons and split type wing tip drag rudders for control. Four vertical fins are installed replacing four propellers and associated shaft housing.

The crew compartment is pressurized to maintain an equivalent of 5000 feet altitude up to 28,000 feet and a constant differential pressure above 28,000 feet. Emergency oxygen system is provided, as are window defrosting, air oxygen system is provided, as are window defrosting, air conditioning, dust protection and sound proofing. The electrically-retractable landing gear is of the tricycle type with steerable nose wheel.

Development

Construction completion 1st airplane: .....
..... December 1949 (estimated)
First flight: ..... January 1950 (estimated)
First delivery: ..... February 1950 (estimated)

WEIGHTS

Loading	Lb	L.F.
Empty	82,807(E)	
Basic	82,882(E)	
Design	206,000	2.0
Combat ..	*125,715	
Max T.O.	†175,000	
Max Land	‡150,000	

(E) Estimated
*For basic mission
†Limited by strength to 85 % design gross weight pending static tests.
‡Limited by strength.

FUEL

Location	No. Tanks	Gal.
Wings, outbd*	2.....	2478
Wings, center	2	3992
Wings, inbd	6	5696
Wings, inbd*	2	2522
*Self sealing	Total	14,688

Spec. ..... AN-F-32, AN-F-48, ... AN-F-58
Grade JP-1, 100/130, JP-3

OIL

Capacity (gal) 88
Spec. AN-0-9
Grade 1010

DIMENSIONS

Span ..... 172.0'

Length ..... 53.1'

Height ..... 20.1'

Tread ..... 44.2'

BOMBS

NO PROVISIONS

GUNS

NO PROVISIONS

ELECTRONICS

VHF Command AN/ARC-3

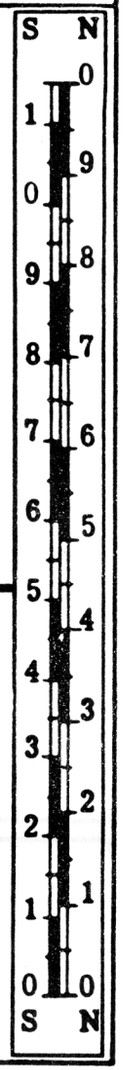
Liaison AN/ARC-8

Interphone ..... USAF Combat

Radio Compass AN/ARN-7

Loading and Performance - Typical Mission

CONDITIONS			BASIC RADIUS	BASIC RANGE	OVERLOAD RADIUS	OVERLOAD RANGE	FERRY RANGE
			I	II	III	IV	V
TAKE-OFF WEIGHT		(lb)	175,000	175,000	182,967	182,967	
Fuel & Oil		(gal)	13,500/88	13,500/88	14,688/88	14,688/88	
Military Load		(lb)	None	None	None	None	
Total Ammunition		(rds/cal)	None	None	None	None	
Wing Loading		(lb/sq ft)	43.8	43.8	45.7	45.7	
Stall Speed-(power off)		(kn)	88	88	90	90	
TAKE-OFF DISTANCE SL	①						
Ground Run (no wind)	④	(ft)	4280	4280	5050	5050	
To Clear 50ft Obst	④	(ft)	5380	5380	6450	6450	
CLIMB FROM SL							
Rate Of Climb at SL	③	(fpm)	1500	1500	1420	1420	
Time To 26,650 Feet	③	(min)	———	———	22.8	22.8	
Time To 28,200 Feet	③	(min)	24.6	24.6	———	———	
Service Ceiling (100 f.p.m.)	③	(ft)	30,200	30,200	28,900	28,900	
COMBAT RANGE	⑤	(n.mi)	———	2640	———	2740	SAME AS MISSION II
COMBAT RADIUS	⑤	(n.mi)	1300	———	1365	———	
Avg. Cruising Speed		(kn)	337	337	339	338	
Total Mission Time		(hr)	7.9	7.9	8.2	8.2	
Cruising Altitude		(ft)	28,200 35,500	28,200 41,800	26,650 35,000	26,650 41,700	
COMBAT WEIGHT		(lb)	125,715	93,601	129,390	94,399	
Combat Altitude		(ft)	35,000	35,000	35,000	35,000	
SPEED							
Max Speed (combat alt)	②	(kn)	380	380	380	380	
Max Speed At 35,332 Ft	②	(kn)	381	381	381	381	
CLIMB							
Rate Of Climb (combat alt)	②	(fpm)	600	1190	550	1170	
Rate Of Climb At SL	②	(fpm)	3050	4270	2950	4230	
CEILING							
Combat Ceiling (500 fpm)	②	(ft)	36,200	42,400	35,500	42,250	
Service Ceiling (100 fpm)	②	(ft)	41,500	47,500	40,800	47,400	
Service Ceiling (100 fpm)	③	(ft)	38,600	44,700	38,000	44,600	
LANDING WEIGHT SL		(lb)	93,601	93,601	94,399	94,399	
Ground Roll	④	(ft)	1090	1090	1200	1200	
From 50' Obst.	④	(ft)	2940	2940	2950	2950	



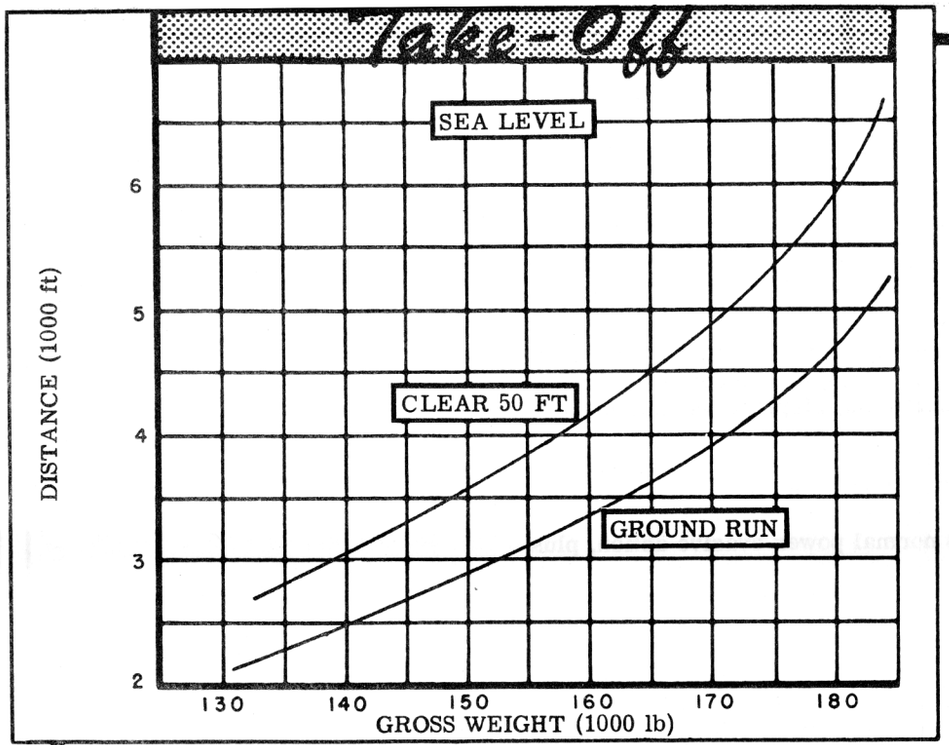
NOTES

① Take-off power
② Max power
③ Normal power
④ Take-off and landing distances are obtainable at sea level using normal technique. For airport planning add 25% to distances shown.
⑤ Detailed descriptions of the RADIUS & RANGE missions are given on page 6.

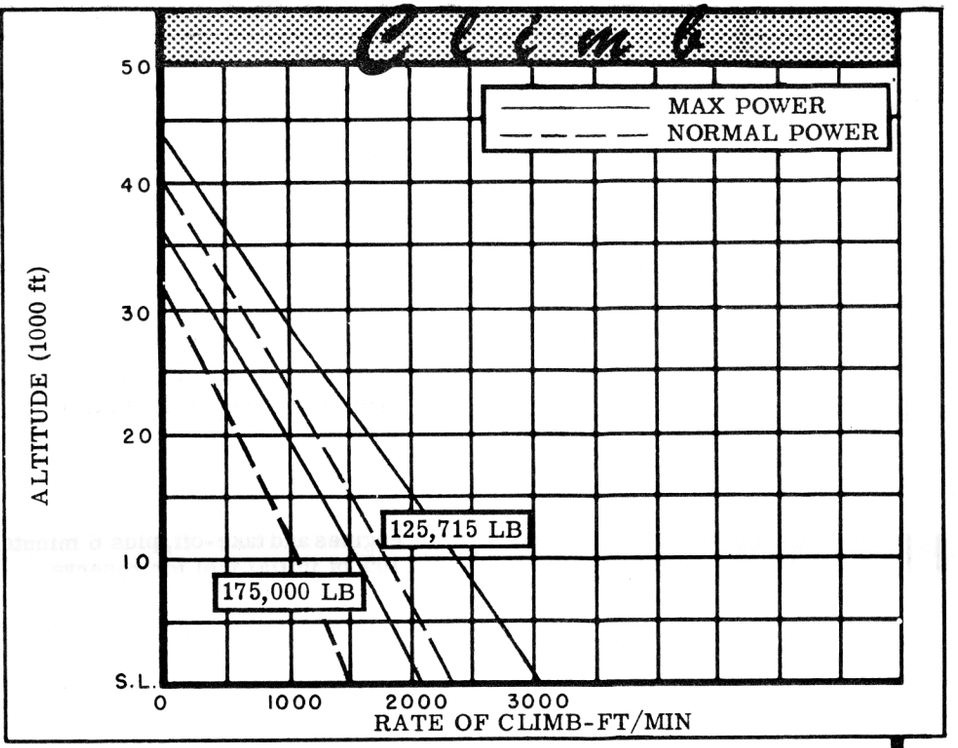
CONDITIONS:

Performance Basis: (a) Estimated data
(b) In computing Radius and Range, specific fuel consumption has been increased 5% to allow for variations of fuel flow in service aircraft.
(c) Performance is based on powers shown on page 3.

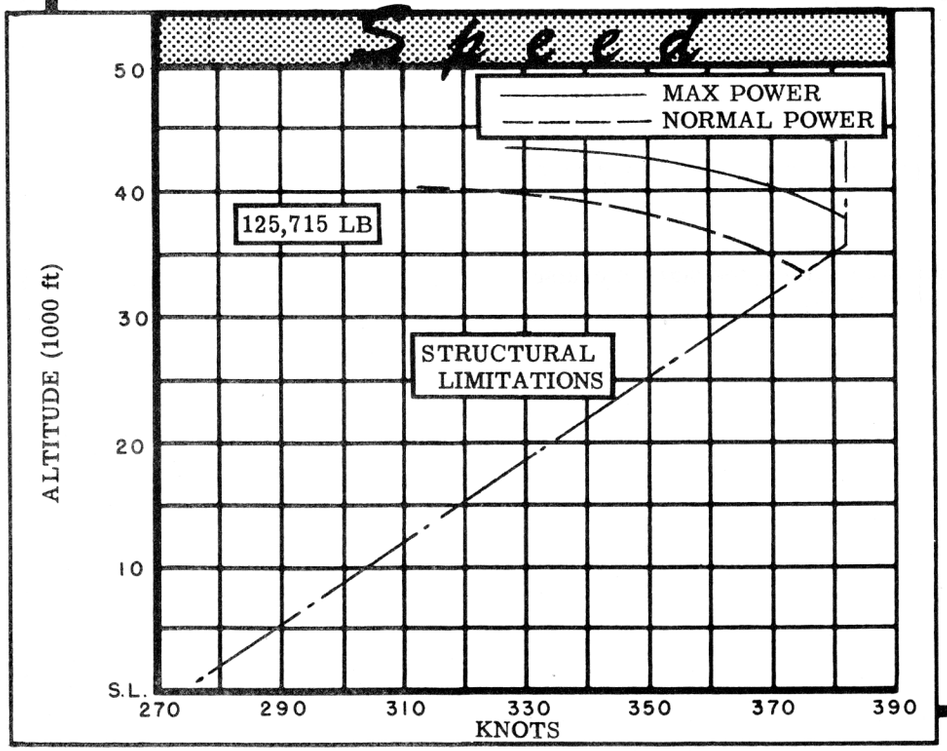
Take-Off



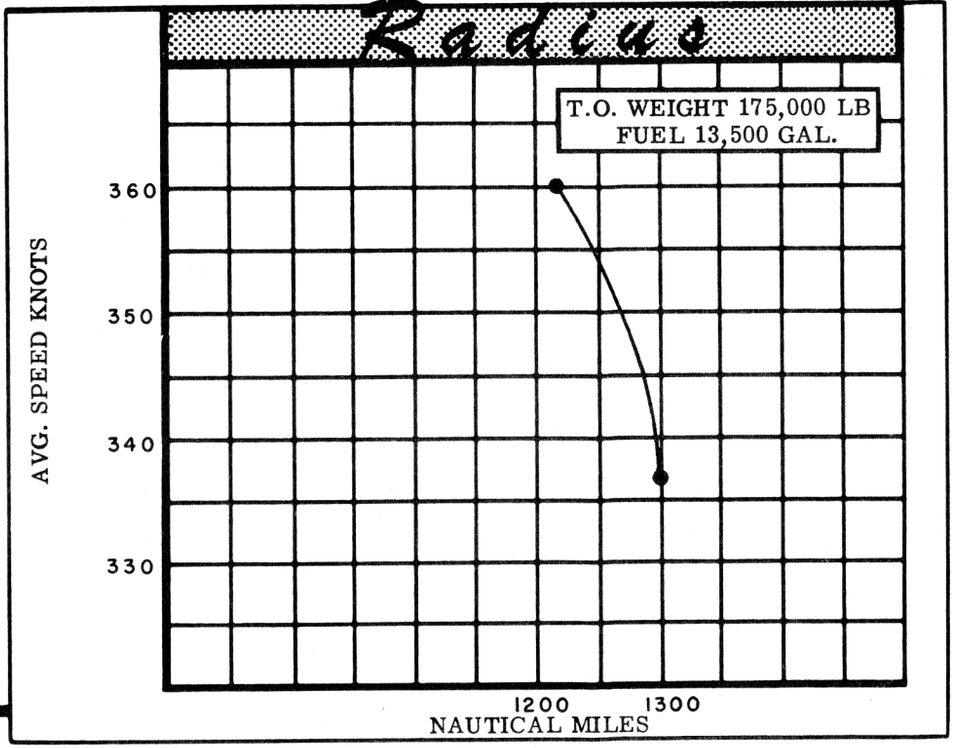
Climb



Speed



Radius



N O T E S

FORMULA: RADIUS MISSION I

Warm-up, take-off and climb on course to 28,200 feet altitude at maximum power and maximum rate of climb, cruise out at long range speeds increasing altitude with decreasing airplane weight, make 6 minute normal power bomb run to target, conduct normal power evasive action for 6 minutes, start cruise to home base at 35,900 feet altitude arriving over home base at 41,800 feet altitude. Range free allowances are: 5 minutes normal power fuel consumption for starting engines and take-off, plus 6 minutes normal power evasive action, plus 10% of initial fuel for reserve.

FORMULA: RANGE MISSION II

Same as the outbound leg of the Basic Radius Formula continued until 90% of the initial fuel has been used at 41,800 feet altitude, leaving 10% fuel reserve for combat, evasive action, landing reserve or other considerations for which no distance credit is allowed.

FORMULA: RADIUS MISSION III

Same as the Basic Radius Formula; initial altitude for start of cruise out is 26,650 feet and final altitude over the home base is 41,700 feet. Range free allowances are the same as for the Basic Radius Formula.

FORMULA: RANGE MISSION IV

Same as the Basic Range Formula; initial altitude for start of cruise out is 26,650 feet and final altitude is 41,700 feet.